

Permit Amendment Source Analysis & Technical Review

Company	Building Materials Corporation of America	Permit Number	7711A
City	Dallas	Project Number	143272
County	Dallas	Account Number	DB-0378-S
Project Type	Amend	Regulated Entity Number	RN100788959
Project Reviewer	Mr. Javier Galván, P.E.	Customer Reference	CN602717464

N
u
m
b
e
r

Site Name **Asphalt Processing and Asphalt Roofing Manufacturing Plant**

Project Overview

Building Materials Corporation of America dba GAF Materials Corporation (GAF) has requested several changes to its existing NSR permit, some as a result of stack testing of various facilities, through an air quality permit amendment. One hearing request from a member of the general public was submitted to the TCEQ during the first public notice comment period which was unresolved by GAF; therefore, a second public notice was performed by GAF.

There are no proposed production rate increases, physical modifications to existing facilities, or new construction of facilities associated with this permit amendment application. GAF has requested to increase asphalt throughput rates for Lines 1 and 3. On September 19, 2008 GAF entered into a proposed Agreed Order, Docket Number 2008-0805-AIR-E, to resolve deviations that resulted from stack testing. This amendment application is the result of that Agreed Order, and emission increases requested by GAF are based on the stack test results. Standard Permit Registration No. 81652 was consolidated by incorporation into this air quality permit. BACT was evaluated and determined to be consistent with current requirements. The standard permit, issued on May 8, 2007, authorized the company to replace the Lines 1 and 3 asphalt coaters ESP with two coalescing filter mist elimination systems for improved control of PM/PM₁₀. A contested case hearing was requested by a member of the general public. GAF's legal counsel requested direct referral of the matter to SOAH. No persons appeared for the preliminary hearing with SOAH held on August 16, 2010. The ED moved that the Administrative Law Judge (ALJ) remand the application to the ED to be processed as an uncontested matter.

Emission Summary

Air Contaminant	Current Allowable Emission Rates (tpy)	Proposed Allowable Emission Rates (tpy)	Change in Allowable Emission Rates (tpy)
PM ₁₀	119.41	103.84	-15.57
VOC	48.82	47.48	-1.34
NO _x	28.47	17.32	-11.15
CO	26.76	60.91	34.15
SO ₂	3.37	128.67	125.29
HAPs	<i>not previously quantified</i>	15.12	

Compliance History Evaluation - 30 TAC Chapter 60 Rules

A compliance history report was reviewed on:	April 29, 2009
Compliance period:	December 19, 2008 - December 19, 2003
Site rating & classification:	0.4/Average
Company rating & classification:	1.36/Average
Has the permit changed on the basis of the compliance history or rating?	No

Public Notice Information - 30 TAC Chapter 39 Rules

Permit Amendment Source Analysis & Technical Review

Permit No. 7711A
Page 2

Regulated Entity No. RN100788959

Rule Citation	Requirement
39.403	Is Public Notice Required? Yes
	Date Application Received: December 19, 2008
	Date Administratively Complete: January 14, 2009
	Small Business Source? No
	Date Leg Letters mailed: January 14, 2009
39.603	Date Published: February 5, 2009
	Publication Name: Dallas Observer
	Pollutants: PM including PM₁₀, SO₂, organic compounds, CO, and NO_x
	Date Affidavits/Copies Received: February 19, 2009
	Is bilingual notice required? Yes
	Language: Spanish
	Date Published: February 5, 2009
	Publication Name: El Extra Spanish Newspaper
	Date Affidavits/Copies Received: February 19, 2009
	Date Certification of Sign Posting / Application Availability Received: March 13, 2009
39.604	Public Comments Received? Yes
	Hearing Requested? Yes
	Meeting Requested? No
	Date Meeting Held: N/A
	Date Response to Comments sent to OCC: August 12, 2010
	Request(s) withdrawn? No - no persons appeared for preliminary hearing with SOAH; ED moved that the ALJ remand the application to the ED to be processed as uncontested matter.
	Date Withdrawn: N/A
	Consideration of Comments: N/A
	Is 2nd Public Notice required? Yes
	Date 2nd Public Notice Mailed: February 8, 2010
39.419	Preliminary Determination: Issue
39.603	Date Published: March 11, 2010
	Publication Name: Dallas Observer
	Pollutants: PM including PM₁₀ and PM_{2.5}, SO₂, VOC, CO, NO_x
	Date Affidavits/Copies Received: March 23, 2010
	Is bilingual notice required? Yes
	Language: Spanish
	Date Published: March 11, 2010
	Publication Name: El Extra Spanish Language Newspaper
	Date Affidavits/Copies Received: March 23, 2010
	Date Certification of Sign Posting / Application Availability Received: April 23, 2010
	Public Comments Received? No
	Meeting Requested? No
	Date Meeting Held: N/A
	Hearing Requested? No
	Date Hearing Held: N/A
	Request(s) withdrawn? N/A
	Date Withdrawn: N/A

Permit Amendment Source Analysis & Technical Review

Permit No. 7711A
Page 3

Regulated Entity No. RN100788959

	Consideration of Comments:	N/A
39.421	Date RTC, Technical Review & Draft Permit Conditions sent to OCC:	August 12, 2010
	Request for Reconsideration Received?	No
	Final Action:	Issue
	Are letters Enclosed?	No

Construction Permit & Amendment Requirements - 30 TAC Chapter 116 Rules

Rule Citation	Requirement	
116.111(a)(2)(G)	Is the facility expected to perform as represented in the application?	Yes
116.111(a)(2)(A)(i)	Are emissions from this facility expected to comply with all TCEQ air quality Rules & Regulations, and the intent of the Texas Clean Air Act?	Yes
116.111(a)(2)(B)	Emissions will be measured using the following method: recordkeeping and stack testing	
116.111(a)(2)(D)	Subject to NSPS?	Yes
	Subparts A, Dc & UU	
116.111(a)(2)(E)	Subject to NESHAP?	No
116.111(a)(2)(F)	Subject to NESHAP (MACT) for source categories?	Yes
	Subparts A & AAAAAAA	
116.111(a)(2)(H)	Is nonattainment review required?	No
	Is the site located in a nonattainment area?	Yes
	Is the site a federal major source for a nonattainment pollutant?	No
	Is the project a federal major source for a nonattainment pollutant by itself?	No
	Is the project a federal major modification for a nonattainment pollutant?	No
116.111(a)(2)(I)	Is PSD applicable?	No
	Is the site a federal major source (100/250 tons/yr)?	No
	Is the project a federal major source by itself?	No
	Is the project a federal major modification?	No
116.111(a)(2)(L)	Is Mass Emissions Cap and Trade applicable to the new or modified facilities?	No
116.140 - 141	Permit Fee: \$ 900.00 Fee certification:	R911983

Title V Applicability - 30 TAC Chapter 122 Rules

Rule Citation	Requirement	
122.10(13)(A)	Is the site a major source under FCAA Section 112(b)?	Yes
	Does the site emit 10 tons or more of any single HAP?	No
	Does the site emit 25 tons or more of a combination?	No
122.10(13)(C)	Does the site emit 100 tons or more of any air pollutant?	Yes
122.10(13)(D)	Is the site a non-attainment major source?	No
122.602	Periodic Monitoring (PM) applicability: Yes Monitor temperature of incinerator four times per hour with an averaging period of one hour. Monitor visible emissions once per week of blowing stills, of storage tanks, and of mineral handling and storage facilities.	
122.604	Compliance Assurance Monitoring (CAM) applicability: N/A	

Request for Comments

Permit Amendment Source Analysis & Technical Review

Permit No. 7711A
Page 4

Regulated Entity No. RN100788959

Received From	Program/Area Name	Reviewed By	Comments
Region:	4	NA	<i>none received</i>
City:	Dallas	Brian Cunningham	none

Process Description

The plant manufactures asphalt shingles for the roofing industry. A dry, nonwoven fiberglass mat is fed into the roofing machine from an unwind stand. The fiberglass is carried through the coating section where coating asphalt mixed with a stabilizer (limestone) is applied to both surfaces of the mat. The coating operation is followed by the surfacing section. Ceramic colored granules are blended and dropped in proper sequence onto the coated web and embedded. The back surface of the sheet is sprinkled with sand to prevent it from adhering to rolls and itself in the finished package. The hot sheet, with a mineralized surface, then goes into the cooling section of the machine. Cooling is accomplished by passing the web over a series of water-cooled drums, through water mist sprays and between air jets. It is then accumulated in the looper section of the machine to provide surge capacity required prior to cutting. Self-seal striping dots are then applied and the sheet is cut into shingles and automatically packaged. The boiler accepts the thermal oxidizer exhaust gas for preheating recovery and fires as necessary to meet the steam needs of the plant.

Project Description

The changes requested by GAF are as follows:

1. Increase the following permit allowables based on stack test results obtained in April, 2008:
 - PM₁₀ for EPN COOL3;
 - (combined) SO₂, NO_x, and CO for EPNs 8 and 8A;
 - PM₁₀ for EPN COOL1.
2. Update/correct permit representations to include on the MAERT the existence of the two sides/stacks of the waste heat recovery boiler: the waste heat recovery boiler stack (EPN 8A) and the waste heat recovery boiler natural gas burner stack (EPN WHBLR1).
3. Correct current permit representation for Tanks T-1 and T-2 Laminating Adhesive Tanks, which will not affect proposed permit allowables since the stack test on EPN 8 accounted for the routing of emissions from Tanks T-1 and T-2 to the direct-flame incinerator.
4. Decrease the following permit allowables based on stack test results:
 - PM₁₀ for EPN CFL;
 - PM₁₀ for EPN 25;
 - (combined) PM₁₀ for EPNs 8 and 8A;
 - SO₂, NO_x, CO, PM₁₀, and VOC for EPN BLR5.
5. In addition to EPN CECO 1, remove from the NSR permit the following EPNs:
 - 98, the Rail 2 Stack;
 - HTR1, the Line 1 Stabilizer Thermal Fluid Heater Vent;
 - HTR2, the Line 1 Thermal Fluid Heater Vent;
 - 30, the Hot Oil Heater Vent (Thermal Fluid Heater).
6. Consolidate by incorporation into this permit SP Registration No. 81652.
7. Add a federally enforceable limit on the operational hours of the standby boiler (EPN BLR5). The standby boiler is used for back-up purposes only, and GAF has requested a limit of 480 hours per year.

Permit Amendment

Source Analysis & Technical Review

Permit No. 7711A
Page 5

Regulated Entity No. RN100788959

Pollution Prevention, Sources, Controls and BACT- [30 TAC 116.111(a)(2)(C)]

The following are sources of emissions at the site: all heaters, the boiler and the standby boiler, all storage and process tanks, blowing stills, and all loading and unloading operations associated with trucks and railcars.

NSPS Requirements

Emission Unit	Proposed Method of Control	NSPS Subpart UU Standard
asphalt storage & process tanks	direct-flame incinerator	zero percent opacity limitation at all times
blowing stills	direct-flame incinerator	1.2 pounds of PM per ton of asphalt
Emission Unit	Proposed Method of Control	NSPS Subpart Dc Standard
standby boiler	no abatement device	no PM or SO ₂ standards
waste heat recovery boiler	no abatement device	no PM or SO ₂ standards

MACT Standards/Requirements

Emission Unit	Proposed Method of Control	MACT Subpart AAAAAAA Standard
blowing stills	direct-flame incinerator	1.2 pounds of PM per ton of asphalt charged to the blowing stills
asphalt coaters	high-energy air filters	0.06 pounds of PM per ton of asphalt roofing product manufactured

The company has represented that the cause for the increase in SO₂ emissions is that it purchases its raw material, asphalt flux, from oil refineries. As a result of the 1997 Low Sulfur Diesel Fuel requirements, the extra sulfur is removed from the fuel and moved to the waste stream. Based on representations made by the company, the suppliers of this asphalt flux vary based on economics, and each refinery has a different by-product stream of which the constituents of the waste stream vary.

A review of the RBLC for asphalt processing and asphalt roofing plants resulted in one plant located in Ohio. This plant is authorized to emit a total of 247.19 tons per year of SO₂ from a thermal incinerator, three asphalt blowing stills/convertors, two asphalt loading racks, and three oxidized asphalt fixed-roof storage tanks (other permitted facilities may exist at the site, but these were the only facilities listed.) Emissions from the blowing stills, loading racks, and storage tanks vent to two distinct thermal incinerators. The listed thermal incinerator has a destruction efficiency of 95 percent for PM/PM₁₀, H₂S, CO, and VOC. No abatement device or method was listed for capture and reduction of SO₂ from the listed facilities at the site. All permitted facilities will meet BACT criteria for asphalt processing and asphalt roofing manufacturing facilities.

Impacts Evaluation - 30 TAC 116.111(a)(2)(J)

Was modeling conducted?	Yes	Type of Modeling:	AERMOD version 07026
Will GLC of any air contaminant cause violation of NAAQS?	No		
Is this a sensitive location with respect to nuisance?	Yes		
[§116.111(a)(2)(A)(ii)] Is the site within 3000 feet of any school?	Yes		

Summary of Modeling Results and Air Quality Analysis

Averaging Period: GLC_{max}: SIL: Background Conc.: Total Conc.: NAAQS: TCEQ
Standard:

Permit Amendment Source Analysis & Technical Review

Permit No. 7711A
Page 6

Regulated Entity No. RN100788959

PM ₁₀	24-hour	68	5	56	124	150
	Annual	18	1	30	48	50
NO ₂	1-hour	83	10*	103	186	188
	Annual	14	1	30	44	100
CO	1-hour	622	2,000		622	40,000
	8-hour	335	500		335	10,000
SO ₂	1-hour	676			676	1,021
	3-hour	532	25	24	556	1,300
	24-hour	329	5	13	342	365
	Annual	39	1	3	42	80

	Averaging Period:	GLC _{max} :	TCEQ ESL:
Asphalt vapors	1-hour	336	350
	Annual	25	35

The PM₁₀ NAAQS evaluation was used as a surrogate for the determination of compliance with the PM_{2.5} NAAQS. Currently there are no PM_{2.5} emission factors available for this industry. PM₁₀ and SO₂ background concentrations were obtained from monitoring data for Dallas County using the most complete, recent year (2006) that had the highest, or equal to the highest, values. NO₂ data were obtained from meteorological datasets of 1985 and 1987-1990. The company used a three-year average of the 98th percentile of the annual distribution of daily maximum 1-hour concentrations from 2007-2009. A NO_x to NO₂ ratio of 0.75 was applied to the modeled NO_x emission rates. *Refer to modeling audit report, July 27, 2010.

Permit Concurrence and Related Authorization Actions

Is the applicant in agreement with special conditions?	Yes
Company representative(s):	Latha Kambham, Ph.D., Trinity Consultants
Contacted Via:	e-mail
Date of contact:	January 8, 2010
Other permit(s) or permits by rule affected by this action:	Yes
List permit and/or PBR number(s) and actions required or taken:	SP Registration No. 81652 will be voided upon approval of this amended NSR permit.

Project Reviewer	Date	Team Leader/Section Manager/Backup	Date
------------------	------	------------------------------------	------